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OCT 10 2008
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October 10, 2008

Ms. Dana Shaffer
Chief
Wireline Competition Bureau
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

FILED/ACCEPTED
DEC - 1 2008
Federal Communications Commission
Office of the Secretary

**Re: Request for Clarification of RAO-21 With Respect to Installation of Emergency Standalone Routers In Remote Terminals**

Dear Ms. Shaffer:

Aztek Networks (Aztek) hereby respectfully requests that the Bureau clarify Responsible Accounting Officer (RAO) Letter 21, as revised on September 8, 1992,[1] to ensure that the installation of emergency standalone routing capability in a device that is and has been a remote terminal or concentrator will not, in and of itself, require that a remote terminal or concentrator to be reclassified as a switch. The clear lesson of the September 11 terrorist attacks and of Hurricanes Katrina and Rita is the importance of redundancy in communications networks, and in avoiding single points of failure. Emergency standalone routing fortifies the network by locating redundant routing capability at remote concentrators that will operate if the connection to the switch is cut or the switch is disabled. The Commission has delegated to the Chief of the Wireline Competition Bureau the authority to "develop and administer rules and policies relating to incumbent local exchange carrier accounting." 47 C.F.R. §§ 0.91(f), 0.291.[2]

Without a clarification of RAO 21, some rate-of-return carriers, fearing adverse accounting impacts, will refrain from installing back-up routing capability, even though such capability is essential to ensuring that users can continue to reach emergency

[1] *See RAO Letter 21*, DA 92-1225, 7 FCC Rcd 6075 (1992)("RAO 21"); *Affirmed Petitions for Reconsideration and Applications for Review of RAO* 21, Order on Reconsideration, 12 FCC Rcd 10061 (1997) ("*RAO 21 Reconsideration Order*").
[2] *See also RAO 21 Reconsideration Order*, 12 FCC Rcd 10073 ¶¶ 26-27 (1997).

services. Unless carriers install emergency standalone routing at remote terminals, the requirement in Rule 12.2, 47 C.F.R. § 12.2, for back-up power at remote terminals would be for naught whenever a remote terminal loses connectivity to the switch. By clarifying RAO 21, the Bureau could ensure that carriers can install emergency standalone routing in remote terminals without fear of changing the existing accounting classifications of their network equipment.

## I. Background.

Aztek Networks has developed and sells Emergency Stand-Alone (ESA) routers. These ESA routers are designed for use only when the feeder between the remote terminal and the switch is cut or the switch is out of service, to allow a remote terminal to switch calls between the lines served by that remote terminal and to pre-designated emergency response numbers. For example, if a remote concentrator were serving the core of a small town, Aztek's ESA router would allow that concentrator, when the feeder to the switch is severed, to connect calls among the subscriber lines connected to that router, including to the local police or fire department. Aztek's ESA routers do not actively route any calls except in the event that the feeder cable to the ESA router's location is cut. Aztek's ESA routers do not at any time support customary Class 5 switch features such as: billing, business services, voice mail, and other traditional end office functionalities that do not provide emergency functionality.[3] Aztek's ESA routers are environmentally hardened to work in field cabinets, not just in central offices.

ESA routers provide an increasingly important public safety function. In order to provide broadband and video services, carriers have been installing more remote terminals in the network, and, in some cases, also converting locations that formerly may have been remote switches into remote concentrators that do not perform switching functions. In some telephone companies, the majority of subscribers are served by these remote concentrators. As these changes have occurred, the number of customers served via single loop concentrator has also increased. Thus, today, there can be thousands of homes or businesses served from a single concentrator. If the feeder cable between the concentrator and the switch is cut, all telephone service to the homes and businesses served by that remote is disrupted. The same occurs if power is lost at the switch, or if a switch location is disabled for some other reason (such as being blown up, being hit by a tornado or suffering a catastrophic flood). By installing an ESA router at a concentrator, in an emergency, the concentrator can route calls either among the lines served by that concentrator or to designated emergency numbers.[4]

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[3] As an example of a feature that supports emergency functionality, Aztek's routers do pass calling party numbers so that emergency responders can receive callback numbers. In the future, it is possible that it will also be important to support features such as emergency alerts.

[4] Automated routing of calls to 911 PSAPs is not possible because the connections to the selective routers occur from the tandems.

Installation of these ESA routers thus complements the Commission's back-up power rules, which require carriers to provide back-up power at remote concentrators.[5] Without ESA capability, back-up power will do no good when the remote terminal's feeder cable to the switch is also disrupted. Such feeder outages would commonly be associated with an event causing power loss. Together, however, the back-up power requirement and ESA capability ensure that, whenever possible, the network will remain available, at least within the area served by a particular remote terminal.

For these reasons, many carriers are proceeding to install ESA routers in their remote concentrators. However, in its conversations with other carriers, particularly the rate-of-return carriers operating on the basis of their own cost studies, Aztek has discovered that confusion over the application of RAO 21 can act as a disincentive to carriers installing ESA capability.

RAO 21 was issued in 1992 to guide carriers as to when outside plant should be classified as switching equipment, and when it should be classified as circuit equipment, under the Commission's Part 32 accounting rules. Among other concerns, inconsistent treatment of remote equipment could result in overstating a carrier's High Cost Loop Support, with the effect of reducing the amount of USF support received by other carriers.[6] In drawing a line between a "remote switch" and a "remote terminal of a concentrator," RAO 21 held that for a concentrator:

> "All calls are switched by the central office switch to which the concentrator is connection. The voice path will always extend to the host switch even for calls between subscribers served by the same remote terminal of a concentrator. If the voice path or control link between the central office and the remote terminal fails, service will be interrupted even for calls between subscribers served by the same remote terminal."[7]

One possible interpretation of this language (but not a necessary one, as explained further below) is that, in order to qualify as a remote concentrator rather than a remote switch, a piece of equipment must always suffer an outage when the feeder linking the concentrator to the switch is cut. While this would be a clear bright line for accounting purposes, it would also carry significant costs in terms of disincenting the fortification of the network, and fail to take into account homeland security concerns that are more prominent in 2008 than they were in 1992.

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[5] *See* 47 C.F.R. § 12.2; *Recommendation of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, Order on Reconsideration, FCC 07-177, 22 FCC Rcd 18013 (2007); *Recommendations of the Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks*, Order, FCC 07-107, 22 FCC Rcd 10541 (2007)("*Katrina Panel Order*").

[6] In 1992, the only universal service high cost support program was the program that is now referred to as High Cost Loop Support.

[7] RAO 21 at 3.

The potential disincentive that such an interpretation of RAO 21 creates to installation of ESA capability can be illustrated simply. Take, for example, a rural carrier that receives High Cost Loop Support and Interstate Common Line Support. That rural carrier receives High Cost Loop Support because its study area average unseparated loop costs are greater than 115% of the adjusted nationwide average cost per loop,[8] and Interstate Common Line Support because it cannot recover its interstate allocated loop costs solely through its subscriber line charge rates.[9] That rural carrier has remote concentrators within its network, the costs of which are allocated as loop costs following RAO 21. If that rural carrier now installs ESA capability in the concentrator, the rural carrier may then be required by RAO 21 to reclassify the remote concentrator as a remote switch because the remote concentrator will now be capable of switching some calls (calls within the remote and to emergency services) even when the feeder link to the switch is cut. That reclassification would remove not only the costs of the concentrator from the "loop" category, but also the costs of the upstream feeder as well, which now becomes "trunk" plant that connects switches, rather than loop plant connecting a switch with the end user.[10] For the rural rate of return carrier, the amount of its "loop costs" then falls, and so does its universal service support. The financial penalty for installing ESA capability can thus be substantial and certainly was not the intended purpose of RAO 21. In many cases, rural rate-of-return carriers will forego implementing ESA capability rather than run the risk of losing a substantial amount of universal service support due to an accounting reclassification of its plant.

## II. Requested Clarification.

Aztek requests that the Bureau clarify that under RAO 21, the installation of emergency standalone routing capability at a terminal classified as a remote concentrator prior to installation of such capability shall not alter the classification of that terminal or location as a remote terminal of a concentrator, provided that the router does not routinely perform the interconnection function locally. In making this clarification, the Bureau should nonetheless make clear that the costs of the ESA router itself will be included in account 2212, digital electronic switching.

This proposed clarification is structured so that the incremental costs of installing an ESA router are not placed into the loop plant accounts. Thus, the ESA router itself will not be supported by either the High Cost Loop Support or Interstate Common Line Support.

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[8] 47 C.F.R. § 36.631. Although the FCC has fixed the Nationwide Average Cost Per Loop at $240, it is then adjusted upward in order to ensure that the actual amount of High Cost Loop Support disbursed to incumbent LECs will be within the nationwide cap on ILEC High Cost Loop Support. *See* 47 C.F.R. §§ 36.601(c), 36.622.

[9] *See* 47 C.F.R. §§ 54.901 *et seq.*

[10] *See* 47 C.F.R. Part 36, Appendix – Glossary, definitions of "loop" and "trunk".

## III. The Requested Clarification Is Reasonable and Consistent with the Purposes Behind RAO 21, But Better Accommodates Public Safety Concerns for Modern Networks.

The requested clarification will continue to serve the purposes behind RAO 21, but will better accommodate the public safety concerns that arise when carriers upgrade to advanced, broadband-capable networks. By allowing carriers to install ESA routers at remote terminals without changing the accounting classification of these terminals, the Commission would allow carriers to fortify their network and build in emergency capabilities without suffering a loss of universal service support.

The bright line that RAO 21 could be construed to draw between remote switches and remote concentrators is too stark, and carries too high a cost for homeland security. While such an interpretation would be an enforceable bright line, it would also mandates that remote terminals, and the feeder connecting them to the rest of the network, be single points of failure. This runs directly counter to the Commission's *Katrina Order*, in which it recognized the importance of remote terminals and thus directed LECs to provide back-up power at remote terminals, in addition to switch locations.[11]

RAO 21 was attempting to prevent rate-of-return ILECs from increasing their USF High Cost Loop Support payments by pushing the costs of remote switches into the "loop" plant category. Thus, when the Commission upheld RAO 21 on an application for review, the Commission found it significant that "Virtually all remote units that contain a switching matrix routinely perform the interconnection function locally and rely on the host unit for the control function, except in the event of an emergency, when the control function is also transferred to the remote."[12] The classic remote switch of the kind addressed by RAO 21 served the purpose of reducing transport requirements to the host switch by routinely switching calls between the subscribers connected to that remote switch, rather than forwarding all calls to the host switch. The Commission rightly concluded that classifying that type of device as a remote concentrator, rather than as a switch, carried the potential of substantially inflating loop costs for functions that were not really loop functions. In addition to performing the local switching function on *all* calls between subscribers connected to the same remote device, these remote switches potentially could also support other value-added services commonly associated with local switches.

The situation Aztek is seeking to address comes at the problem from the other end. Instead of remote switches that carriers seek to reclassify as remote terminals in order to inflate USF support, Aztek's situation presents remote terminals that could be inadvertently re-classified as switches – without any real change in the functionality being provided, other than providing emergency-only routing within the lines served by

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[11] *See Katrina Panel Order*, 22 FCC Rcd 10465 (¶ 77) (2007) (ordering back-up power at "digital loop carrier system remote terminals").
[12] *RAO 21 Reconsideration Order*, 12 FCC Rcd at 10067 (¶ 12) (1997).

the concentrator or remote terminal. Without Aztek's ESA router, the equipment would unambiguously fall within RAO 21's definition of a remote terminal. As discussed above, it is becoming increasingly common for carriers to remove remote switches and to replace them with remote terminals as part of upgrading their networks for broadband and "triple play" capabilities; with the unintended consequence of making these subscribers more vulnerable to complete service outages. If the carrier installs an ESA router to remediate this exposure, RAO 21 should not result in reclassifying the remote terminal as a switch, thereby reducing USF support for no reason other than the carrier attempting to provide some emergency network protection at its remote terminal.

The requested clarification balances the desire for simple, bright line accounting rules for rate-of-return carriers and homeland security interests. When the remote device routinely provides interconnection in non-emergencies, that device would remain classified as a switch. For a device that is otherwise classified as a remote terminal prior to installation of the ESA, emergency standalone back-up routing capability could be added to a device without altering its classification as a remote terminal. The requested clarification would thus complement the Commission's back-up power rule by ensuring that the remote terminal remains functioning and can route calls to emergency responders connected to that terminal even if power is out and the feeder cable is severed.

## IV. The Requested Clarification Will Not Increase or Distort High Cost Loop Support.

The requested clarification will not increase or distort High Cost Loop Support. The requested clarification specifies that the investment associated with the ESA router itself should be included in Account 2212, Digital Electronic Switching. This ensures that the costs of the ESA router itself do not become loop costs that are compensable through High Cost Loop Support. Thus, the installation of ESA routers will not itself add to demands on the High Cost Fund.

## V. The Bureau Has Full Authority to Grant This Requested Clarification or Modification of RAO 21.

In its *RAO 21 Reconsideration Order*, the Commission held that the Bureau had full authority to issue RAO 21. *RAO 21 Reconsideration Order*, 12 FCC Rcd. at 10072 ¶¶ 25 - 27. Section 0.91(e) of the Commission's rules makes clear that one of the Wireline Competition Bureau's functions is to "develop and administer rules and policies relating to incumbent local exchange carrier accounting." 47 C.F.R. § 0.91(e). Furthermore, the Bureau is charged with "act[ing] on requests for interpretation or waiver of rules." 47 C.F.R. § 0.91(b). Subject to exceptions not applicable here, the Chief of the Wireline Competition Bureau is delegated the authority to perform these bureau functions. 47 C.F.R. 0.291; see *also RAO 21 Reconsideration Order*, 12 FCC Rcd. at 10072 (¶ 25).

Furthermore, as the *RAO 21 Reconsideration Order* held, RAO 21 itself is an interpretative, not a legislative, rule. As such, in issuing and modifying RAO 21, the Commission and the Bureau do not need to use the notice and comment procedures applicable to informal rulemakings under Section 553 of the Administrative Procedures Act, 5 U.S.C. § 553. As the Commission observed, interpretative rules are exempt from Section 553's notice and comment procedures. *See* 5 U.S.C. § 553(b)(3)(A); *RAO 21 Reconsideration Order*, 12 FCC Rcd. at 10071 (¶ 22). The changes requested herein are likewise changes to an FCC interpretative rule, and thus are not subject to Section 553 rulemaking requirements.

## VI. Conclusion.

Accordingly, in order to remove an inadvertent disincentive that the RAO 21 may create with respect to the installation of back-up emergency routing capability at remote terminals, the Bureau should issue the requested clarification.

Sincerely,

John T. Nakahata
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